Annual Report
on SDG13 Climate Action

13.2 Low carbon energy use

13.2.1 Measurement of low-carbon energy consumption across the university

Electricity consumption at Thaksin University

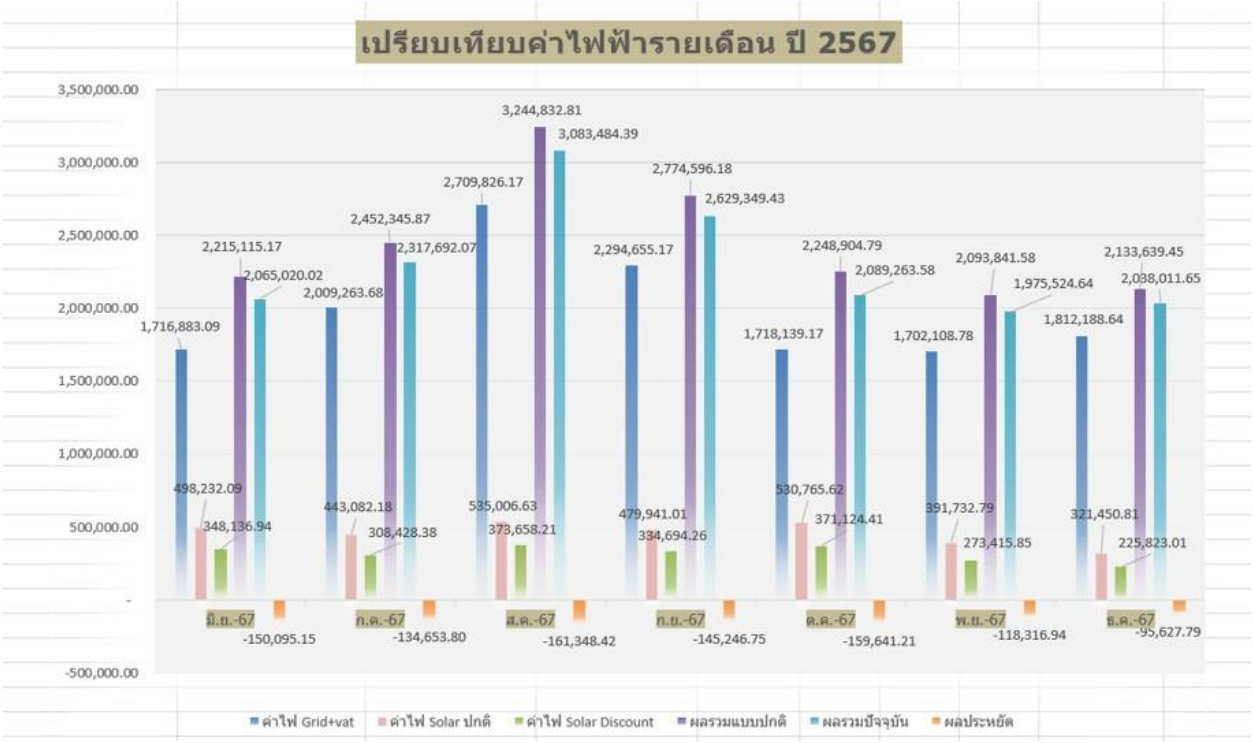
In 2024, Thaksin University begins using electricity from Solar Rooftop in the Phatthalung and Songkhla campuses. The maximum installed capacity was 1,973 kilowatts cover both campuses of Thaksin University. In 2024, Thaksin University also started recording electricity usage data including total electricity usage and electricity from solar cell systems. The recording data shows that solar cell electricity which is a low-carbon source can replace electricity from the normal system by 11.90-17.99 percent, depending on the weather conditions in each month.

Electricity consumption in Thaksin University

Month	Normal system	Solar system	Total electricity	Percentage ratio (%)	
	Unit (kWh)	Unit (kWh)	Unit (kWh)	Normal system	Solar system
Jan-24	398,449.36	-	398,449.36	100.00	-
Feb-24	383,250.14	-	383,250.14	100.00	-
Mar-24	456,245.99	-	456,245.99	100.00	-
Apr-24	416,490.56	-	416,490.56	100.00	-
May-24	418,799.36	-	418,799.36	100.00	-
Jun-24	469,179.61	102,916.64	572,096.26	82.01	17.99
Jul-24	626,271.91	106,623.84	732,895.74	85.45	14.55
Aug-24	649,178.65	101,680.22	750,858.88	86.46	13.54
Sep-24	611,386.70	102,809.19	714,195.88	85.60	14.40
Oct-24	511,802.22	94,781.46	606,583.68	84.37	15.63
Nov-24	483,132.96	73,023.08	556,156.04	86.87	13.13
Dec-24	485,126.38	65,545.16	550,671.54	88.10	11.90

The table shows a clear trend in **low-carbon energy use** at Thaksin University, Phatthalung Campus. From June 2024 onward, solar power began supplying part of the total electricity demand. The contribution of solar energy ranged from 11.90% to 17.99%, with the highest share in June. Although the normal system remains the major electricity source, the gradual increase in solar consumption indicates the university's transition toward cleaner energy. Each month that solar power replaces grid electricity, carbon emissions from fossil-fuel-based electricity generation are reduced. This shift contributes to **lower greenhouse gas emissions**, improved **energy sustainability**, and **long-term cost efficiency.** The data reflects meaningful progress toward **a low-carbon campus.**

Monthly Electricity Cost in 2024



The chart compares monthly electricity costs in 2024, showing **a clear financial benefit from integrating solar energy**. In every month, the cost of electricity from the grid was higher than the cost when solar power and the solar discount were applied. The largest savings occurred in April, with a reduction of more than 161,000 THB, followed by June and September.

This downward shift demonstrates the campus's progress in reducing dependence on conventional electricity. Because solar power is **a low-carbon energy source**, increased solar consumption not only lowers costs but also helps decrease carbon emissions from fossil-fuel electricity. Overall, the data indicates meaningful financial and environmental advantages achieved through solar system adoption.

Electric vehicles (EV) charging stations

Electric vehicles (EVs) are one option for creating a sustainable transportation system that meets the long-term needs of society and the environment. They are gaining popularity and increasing the number of users every day.

In 2024, Thaksin University installed 160 kW EV Charging Station, one unit per campus in Songkhla and Phatthalung. This station serves as a model for research and development of energy management models in educational institutions, and is ready to accommodate electric vehicle users in Songkhla and Phatthalung provinces. The fixed service fee is 5.5 baht per unit of electricity, which PEA officials confirmed is currently the lowest rate in Thailand for a 160 kW EV

Charging Station. This project is not for profit, but rather aims to provide the area for students and the public who use electric vehicles, providing them with affordable, clean energy.

Memorandum of Understanding (MoU) between Thaksin University and Provincial Electricity Authority (PEA)

Thaksin University signed an agreement with the Electricity Generating Authority of Thailand (EGAT) to open an EV Charging Station and provide services for the PEA VOLTA Platform, driving the transportation system for a clean world.

May 16, 2024 1873

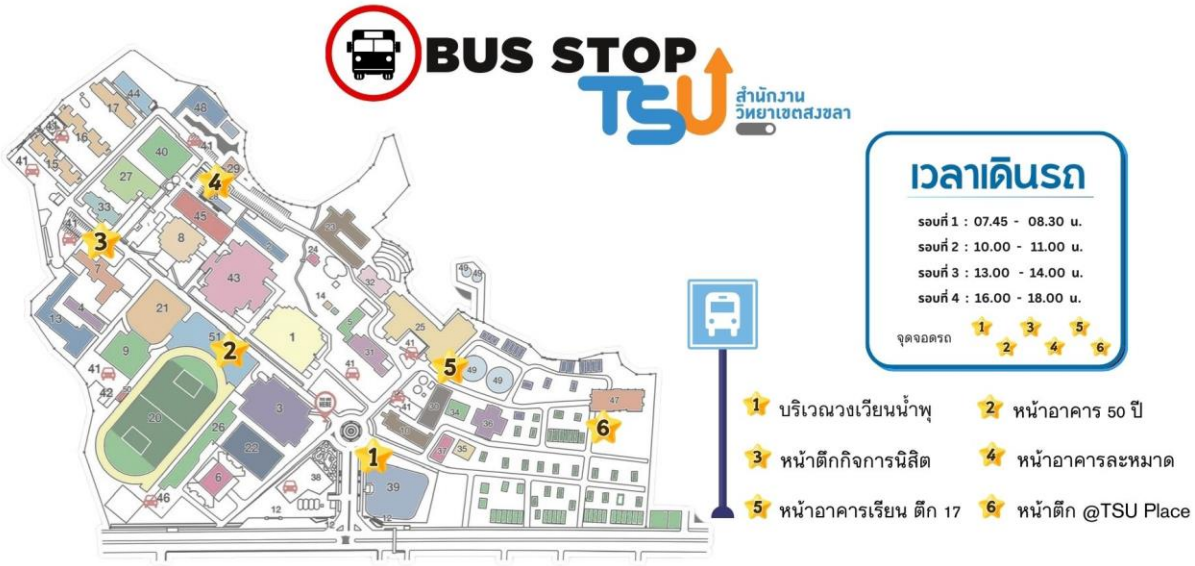
Public evidence:

https://www.tsu.ac.th/home/details.php?aNum=20240516082802&id=3629&gid=2

Electric shuttle service

In 2024, Songkhla and Phatthalung campus of Thaksin University have launched electric shuttle service for staff and students within the university to reduce greenhouse gas emissions in line with the UI Green (fuel energy reduction aiming to become a sustainable green university). The shuttles operate around the university, providing convenient transportation directly to academic buildings and other destinations within the campus — offering free rides for everyone to travel to and from their locations.

Public evidence: https://www.facebook.com/share/p/17VsWXMyeE/



Public evidence:

https://adminsk.tsu.ac.th/detail.php?id_list=120&aNum=20250120144745